

Pasta Bridge Design

No.	Dates	Steps	Materials/Resources
1	May 2, 2012	Build supports for your bridge. Bundle several strands of pasta together in the shape of a tube. Apply glue to each strand as you go. Hold each bundle together with a rubber band until the glue dries.	big macaroni, rubber band, glue
2	May 8, 2012	Build a deck for your bridge (also known as the roadbed--the part of the bridge upon which the load will be placed). Two possible designs are: 1) A round bundle of unglued spaghetti (the lack of glue allows the spaghetti to shift as needed under the weight of the load), or 2) Several layers of spaghetti, with each layer consisting of pieces of spaghetti glued side by side to the width of the deck, and the resulting layers glued one atop another to form a thick stack (try 10 layers for starters).	
3	May 9, 2012	Design the trusses (also referred to as the substructure and superstructure) of your bridge to scale on a piece of graph paper. This will serve as a template for the building of your bridge. The best designs consist of a series of triangles, which are stronger than squares.	
4	May 15, 2012	Cover the graph paper with a sheet of clear plastic wrap. This allows you to see your template as you build your bridge, without getting glue on the graph paper.	
5	May 15, 2012	Cut the spaghetti to fit the template, lay it out on the template and then glue them together using white glue or a hot glue gun. Make sure the students are careful with the hot glue.	
6	May 16, 2012	Glue all the components of your bridge together (supports, deck, and trusses).	
7	May 22, 2012	Gradually add weight to your bridge in small increments to determine how much weight it can hold before it breaks.	